VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please replace the paragraph beginning on page 1 line 11 with the following paragraph:

This application is a division of co-pending U.S. application Ser. No. 09/331,911 filed June 25, 1999 as a national stage entry (371) of International Application PCT/US98/27632 filed December 24, 1998 which international application claims priority from U.S. application Ser. No. 09/115,454 filed July 14, 1998, now abandoned, and from U.S. application Ser. No. 08/998,188 filed December 24, 1997, now abandoned. All of these applications are incorporated by reference herein for all purposes.

Please delete in its entirety the paragraph on page 4, lines 6-17:

[The processing devices and methodology of the present invention elegantly resolve the dilemma between large sample volumes and microfluidic structures by incorporating microfluidic chips or components into larger cartridges having any desired combination of microscale to macroscale channels, chambers, reservoirs, detection and processing regions. This makes it possible to exploit the key attributes of microfabricated chips and other miniature fluidic or analytical components in a conventional, cartridge-type, physical environment. Such a combination, while superficially less sophisticated than "lab-on-a-chip" technology, affords a superior blend of efficiency and convenience in design, manufacture, and use.]

Please delete in its entirety the paragraph on page 6 lines 7-13:

[In contrast to prior fluidic cartridges that process a fluid sample as a bolus, the continuous-flow cartridge of the present invention permits the rapid processing of a fluid sample that is larger in volume than any interactive region within the cartridge. The ability to process larger sample volumes allows increased sensitivity in the detection of

low copy concentrations of analytes, such as nucleic acid.]

Please delete in its entirety the paragraph beginning on page 9 line 22 and ending on page 10 line 1:

[The present invention provides a cartridge for performing various operations on a fluid sample as the sample flows through a series of interconnected, interactive regions within the cartridge. The regions are located sequentially along a fluid flow path through the cartridge, so that a segment of the fluid stream is exposed to a specific operation at one region, then another operation at the next region, etc. The sample flows through the interactive regions so that it is simultaneously in contact with more than one region at a given time. The sample flow is preferably continuous, so that the operations at each region occur simultaneously and sequentially on the fluid stream.]

Please replace the paragraph beginning on page 10, line 3 with the following paragraph:

--The cartridges of the present invention allow for significantly improved processing of a fluid sample for the detection and/or analysis of chemical components in the sample, such as biological molecules. [A pioneering improvement over the prior art is the ability to rapidly process a fluid sample that is larger in volume than any interactive region within the cartridge, thereby permitting increased sensitivity in the detection of low copy concentrations of analytes, such as nucleic acid.] The cartridges may also be designed to automatically conduct processes, such as mixing reagents with the fluid sample, lysing, filtering, and introducing the mixture into a reaction chamber or separate reaction vessel appropriate for further processing, e.g., detection or amplification of the analyte.--

IN THE ABSTRACT:

Please replace the abstract of the disclosure on page 88 lines 4-17 with the following abstract of the disclosure:

An analyte is separated from a fluid sample by introducing the sample into a cartridge having [a sample port and a first flow path extending from the sample port. The first flow path includes] an extraction chamber containing [a solid support] capture material for capturing the analyte [from the sample. The cartridge has a second flow path for eluting the captured analyte from the extraction chamber, the second flow diverging from the first flow path after passing through the extraction chamber]. The sample is forced to flow through the extraction chamber [and into a waste chamber, thereby capturing] to capture the analyte with the [solid support as the sample flows through] capture material in the extraction chamber. The captured analyte is then eluted from the extraction chamber by forcing an elution fluid to flow through the extraction chamber [and along the second flow path]. The cartridge may optionally include a lysing region for lysing sample components (e.g., cells spores, or microorganisms), a waste chamber for storing waste fluid, and reaction or detection chambers for chemically reacting or detecting the eluted analyte.